

5Es

	Suggested Activity	What the Teacher Does	What the Student Does
Engage	<ul style="list-style-type: none"> • Demonstration • Reading • Free Write • Analyze a graphic organizer • Brainstorming 	<ul style="list-style-type: none"> • Creates interest. • Generates curiosity. • Raises questions. • Elicits responses that uncover what the students know or think about the concept/topic. 	<ul style="list-style-type: none"> • Asks questions such as, Why did this happen?, What do I already know about this? What can I find out about this? • Shows interest in the topic.
Explore	<ul style="list-style-type: none"> • Perform and investigation • Read authentic resources to collect information • Solve a problem • Construct a model 	<ul style="list-style-type: none"> • Encourages the students to work together without direct instruction from the teacher. • Observes and listens to the students as they interact. • Asks probing questions to redirect the students' investigations when necessary. • Provides time for the students to puzzle through problems. 	<ul style="list-style-type: none"> • Thinks freely but within the limits of the activity. • Tests predictions and hypotheses. • Forms new predictions and hypotheses. • Tries alternatives and discusses them with others. • Records observations and ideas • Suspends judgment.
Explain	<ul style="list-style-type: none"> • Student analysis and explanation • Supporting ideas with evidence • Structured questioning • Reading and discussion • Teacher explanation • Thinking Skill Activities: compare, classify, error analysis 	<ul style="list-style-type: none"> • Encourages the students to explain concepts and definitions in their own words. • Asks for justification (evidence) and clarification from students. • Formally provides definitions, explanations, and new labels. • Uses students' previous experience as basis for explaining concepts. 	<ul style="list-style-type: none"> • Explains possible solutions or answers to others. • Listens officially to others' explanations. • Questions others' explanations. • Listens to and tries to comprehend explanations the teacher offers. • Refers to previous activities. • Uses recorded observations in explanations.

Extend	<ul style="list-style-type: none"> • Problem solving • Decision making • Experimental inquiry • Thinking Skill <p>Activities: compare, classify, apply</p>	<ul style="list-style-type: none"> • Expects the students to use formal labels, definitions, and explanations provided previously. • Encourages the students to apply or extend the concepts and skills in new situations. • Reminds students of alternative explanations. • Refers the students to existing data and evidence and asks, What do you already know? Why do you think...? • Strategies for Explore apply here also. 	<ul style="list-style-type: none"> • Applies new labels, definitions, explanations, and skills in new, but similar situations. • Uses previous information to ask questions, propose solutions, make decisions, and design experiments. • Draws reasonable conclusions from evidence. • Records observations and explanations. • Checks for understanding among peers.
Evaluate	<ul style="list-style-type: none"> • Any of the above • Develop a scoring tool or rubric • Test • Performance assessment • Produce a product • Journal entry • Portfolio 	<ul style="list-style-type: none"> • Observes the students as they apply new concepts and skills. • Assesses students' knowledge and/or skills • Looks for evidence that the students have changed their thinking or behaviors • Allow students to assess their own learning and group-process skills. • Asks open-ended questions, such as: Why do you think...? What evidence do you have? What do you know about x? How would you explain x? 	<ul style="list-style-type: none"> • Answers open-ended questions by using observations, evidence, and previously accepted explanations. • Demonstrates an understanding or knowledge of the concept or skill. • Evaluates his or her own progress and knowledge. • Asks related questions that would encourage future investigations.